

**Listing of the Claims:**

1-19 (Cancelled)

20. (New) A magnetic device comprising:

a substrate;

an underlayer on the substrate;

a bilayer on the underlayer, the bilayer including a first ferromagnetic layer in contact with an antiferromagnetic layer, the first ferromagnetic layer having perpendicular magnetic anisotropy with its magnetic moment oriented generally perpendicular to the interface between the first ferromagnetic layer and the antiferromagnetic layer, the first ferromagnetic layer being exchange biased, generally perpendicular to the interface, by the antiferromagnetic layer; and

a capping layer over the bilayer.

21. (New) The device according to claim 20, wherein the antiferromagnetic layer includes a material selected from the group consisting of a cobalt oxide, a nickel oxide, an oxide of an alloy of cobalt and nickel, and a platinum-manganese alloy.

22. (New) The device according to claim 20, wherein the first ferromagnetic layer includes a material selected from the group consisting of a cobalt-platinum-chromium alloy, an iron-platinum alloy, one or more cobalt-platinum bilayers, and one or more cobalt-palladium bilayers.

23. (New) The device according to claim 20, wherein the device is a perpendicular magnetic recording disk, wherein the antiferromagnetic layer is a layer of nickel-oxide directly on and in contact with the underlayer, and wherein the first ferromagnetic layer is the magnetic recording layer directly on the nickel-oxide layer.

24. (New) The device according to claim 23, wherein the first ferromagnetic layer comprises a cobalt-platinum-chromium alloy.

25. (New) The device according to claim 20, wherein the device is a perpendicular magnetic recording disk, wherein the first ferromagnetic layer is directly on the underlayer, and wherein the antiferromagnetic layer is directly on the first ferromagnetic layer.

26. (New) The perpendicular magnetic recording disk according to claim 25, further comprising a second ferromagnetic layer located between the bilayer and the capping layer and being directly on and in contact with the antiferromagnetic layer, the second ferromagnetic layer having perpendicular magnetic anisotropy with its magnetic moment oriented generally perpendicular to the plane of the second ferromagnetic layer and being perpendicularly biased by the antiferromagnetic layer.